

Leucaena - Friend or Foe?

Over 100,000 ha of leucaena-grass pastures have been planted for cattle production in Queensland.

Public concern that cultivated leucaena pastures pose a weed threat to the environment necessitates the clarification of a number of issues in this pamphlet.

The Leucaena Network appeals to stakeholders to take a balanced look at all aspects of the environmental impact of leucaena in Australia.

Positive benefits

Leucaena-grass pastures achieve the 'triple bottom line' by providing huge environmental, economic & social benefits to Australian agriculture & rural communities.

Environmentally, these pastures:

- revitalize degraded soils through nitrogen fixation
- reduce runoff & soil erosion
- mitigate dryland salinity because leucaena is a long-lived (>30 yrs) perennial tree with deep roots (to 6 m) similar to those of native trees
- minimize the impact of cattle grazing on greenhouse gas balances by reducing methane emissions from cattle & sequestering carbon
- give graziers the opportunity to protect vulnerable native ecosystems by enabling intensification of production on robust leucaena-grass pastures.

Economically, high quality leucaena-grass pastures:

- increase animal liveweight gain
- increase beef production/ha
- give graziers flexibility to a) meet the carcass requirements of all domestic or export beef markets; & b) sell prime cattle out of season
- maximize returns (\$/ha).

Socially, leucaena-grass pastures:

- provide financial & employment security for people in Australian rural communities
- preserve the viability of family enterprises
- help sustain rural lifestyles for future generations.

Notwithstanding the above, leucaena is a minor weed of parts of coastal Queensland & the likelihood of commercial plantings exacerbating this problem needs to be clarified.



Careful grazing management prevents seed production

Clarification of weed status

- A seedy, unproductive type of leucaena (subspecies *leucocephala*) is currently a minor weed of roadsides & riparian zones in urban & coastal areas of Queensland.
- Naturalized 'weed' leucaena has been in Australia for >100 years. However, productive commercial leucaena varieties (subspecies *glabrata*) were first planted in the 1970's & 1980's.
- The Leucaena Network appreciates & fully understands that commercial varieties of leucaena can 'escape' if left ungrazed & unchecked in poorly managed pastures. However, to date little escape has occurred & movement has been slow.

- A survey of leucaena growers indicated some inter-row volunteer seedling recruitment had occurred & only 1.5% of growers reported spread outside their property boundaries.
- Grazing management is a critical factor controlling the spread/escape of leucaena by preventing seed production.
- The Leucaena Network has prepared a voluntary 'Code of Practice' that has been distributed widely. The precautionary measures outlined in the 'Code of Practice' will effectively negate much of the environmental weed threat of cultivated leucaena varieties.
- In 2003, the 'Code of Practice' was endorsed by DPI&F, NR&M & EPA in a State Govt. policy governing the establishment of leucaena-grass pastures for grazing.
- The Leucaena Network regularly reviews the 'Code of Practice' & is currently considering a process of grazier accreditation as an additional measure to ensure leucaena-grass pastures are managed effectively.
- The Leucaena Network encourages growers to immediately eradicate 'escaped' leucaena with the chemical ACCESS™ in diesoline (1:60 v/v). Rogue plants can be killed easily, however seedling regeneration in future years will require follow-up treatment.
- Biological control agents are suppressing the spread of weed leucaena. A bruchid beetle seed predator is capable of destroying up to 90% of viable seed. Flower-eating caterpillars & the psyllid insect further minimize seed production.
- The Leucaena Network advocates control & eradication of all leucaena weed infestations by graziers, local governments & other agencies responsible for maintaining community infrastructure.

In summary, the value of *Leucaena leucocephala* subspecies *glabrata* to society in environmental, economic & social terms far outweighs its minimal threat to the environment. The Leucaena Network is committed to continue to monitor, develop & implement strategies that will further reduce the potential weed hazard of commercial leucaena-grass pastures.



A leucaena seed destroyed by bruchid beetles

About the Leucaena Network

The grazing community of central Queensland established The Leucaena Network in July 2000. Its members include graziers, seed producers, & research & extension personnel.

The Leucaena Network aims to promote & facilitate the adoption & improvement of leucaena-based agroforestry systems in northern Australia, by co-ordinating the generation, dissemination & commercialization of information generated from research & development activities.

The Leucaena Network is constantly communicating with environmental groups such as Landcare, catchment groups & Govt. agencies. The Leucaena Network values transparency & integrity, & is happy to discuss any of the issues raised above.

Network achievements include:

- The development of the voluntary 'Code of Practice for the sustainable use of leucaena-based pastures in Queensland' to assist graziers to minimize the environmental weed potential of commercial leucaena-grass pastures
- Obtaining >\$700,000 of industry funding to: a) develop a psyllid-resistant leucaena, b) investigate leucaena toxicity in Qld, & (c) produce a graziers' manual for the establishment & management of leucaena
- Conducting 'Leucaena for Profit & Sustainability' training courses for graziers on an ongoing basis
- Dissemination of information through the media, newsletters, meetings & field days
- Negotiating with industry, community groups & government to secure the future use of leucaena-grass pastures.



Leucaena-grass pastures are productive & sustainable

For membership information & to obtain a copy of the 'Code of Practice' contact:

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THE LEUCAENA NETWORK

“Promoting the responsible development of leucaena in productive and sustainable grazing and agroforestry systems to build stronger rural communities.”

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